GOLDCHAMP GCUS-886A

User Manual for GOLDCHAMP Nuclear Radiation Detector

Model: GCUS-886A

1. Introduction

The GOLDCHAMP GCUS-886A Nuclear Radiation Detector is a versatile and rechargeable Geiger counter designed for detecting ionizing radiation, including X-rays, Beta-rays, and Gamma-rays. Equipped with a clear LCD display, it offers multiple dosage units and three distinct alarm modes to ensure user safety and accurate readings in various environments.
This manual provides detailed instructions on the proper use, setup, maintenance, and troubleshooting of your radiation detector. Please read it thoroughly before operating the device.

2. Product Overview

2.1 Package Contents

Upon opening the package, please verify that all items are present and in good condition:

- 1 x GOLDCHAMP Nuclear Radiation Detector (GCUS-886A)
- 1 x USB Charging Cable
- 1 x User Manual (this document)

Image: Contents of the product package, including the detector, USB cable, and user manual.

Image: Visual representation of the detector, packing box, and data cable included in the package.

2.2 Key Features

The GCUS-886A detector boasts several advanced features for comprehensive radiation monitoring:

- **Detection Capabilities:** Detects X-rays, Beta-rays, and Gamma-rays using an energy-compensated GM tube.
- **Multiple Dosage Units:** Supports µSv/h, µGy/h, mR/h, cps, and cpm.
- **Wide Measurement Range:** Dose range from 0.00 µSv to 500 mSv.
- **Energy Range:** 48 keV - 1.5 MeV ±30% (for 137 Cs).
- **High Sensitivity:** 80 CPM/µSv (for Co-60).
- **Color LCD Display:** 2.5-inch HD screen with backlight displays real-time detection quantity, current dose alarm value, temperature, and humidity.
- **Intelligent Alarm Modes:** Three selectable alarm modes: light, vibration, and sound. Cumulative dose alarm threshold can be preset.
- **Rechargeable Battery:** Built-in rechargeable battery for convenience.
- **Multi-function Display:** Shows real-time monitoring, maximum value, average value, temperature, humidity, current dose alarm value, and cumulative time.

Image: Overview of the detector's key functions, including detection rays, alarm modes, dosage units, and display features.

Image: Illustrates the detector's core features: GM Counting Tube, 5 Dosage Units, Average/Maximum readings, Light/Vibration/Audible Alarm, X/β/γ-rays detection, Rechargeable, Temperature, and Humidity display.

Image: Shows the five dosage units supported by the device: μSv/h, μGy/h, mR/h, CPS, and CPM.

2.3 Device Layout and Buttons

Familiarize yourself with the device's display and control buttons:

- **LCD Display:** Shows all measurement data, settings, and status indicators.
- **Left / Back Button:** Used to navigate back in menus or decrease values.
- **Right / Settings Button:** Used to enter settings menus or increase values.
- **Power / OK Button:** Used to power on/off the device and confirm selections.
- **Up & Down Buttons:** Used for navigation and adjusting settings.

Image: Detailed view of the 2.5-inch LCD display showing real-time data and an introduction to the device's buttons.

Image: Illustrates the multi-functionality of the display, showing unit settings, monitoring interface, and alarm settings/modes.

3. Setup

3.1 Charging the Device

The GOLDCHAMP GCUS-886A comes with a built-in rechargeable battery. Before first use, or when the battery indicator shows low power, charge the device using the provided USB cable.

1. Connect the small end of the USB cable to the charging port on the side of the detector.
2. Connect the standard USB end to a compatible USB power adapter (not included) or a computer's USB port.
3. The device's screen will indicate charging status. Allow the device to fully charge before initial use.

Image: Shows the detector connected to a power adapter via USB cable for charging.

3.2 Powering On/Off

- **To Power On:** Press and hold the **OK** button until the screen illuminates and the device starts up.
- **To Power Off:** Press and hold the **OK** button until the screen turns off.

4. Operating Instructions

4.1 Basic Operation and Measurement

Once powered on, the device will immediately begin detecting radiation and displaying real-time data on the LCD screen. The main display shows:

- Real-time detection quantity (current dose rate)
- Maximum detected value
- Average detected value
- Temperature and Humidity
- Current alarm value
- Cumulative time

Image: The GOLDCHAMP Nuclear Radiation Detector displaying real-time radiation readings, temperature, and humidity on its LCD screen, alongside its USB charging cable.

The device utilizes an energy-compensated GM tube. When ionizing radiation passes through the tube, it creates ion pairs, which are amplified into electrical pulses and recorded by the device. The number of pulses per unit time indicates the radiation level.

Image: Highlights the sensitive Geiger counter's specifications, including sensitivity, energy range, cumulative dose equivalent, and dose equivalent rate.

4.2 Setting Alarm Modes

The detector offers three distinct alarm modes to alert you when radiation levels exceed a preset threshold:

- **Audible Alarm:** A beeping sound.
- **Vibration Alarm:** The device vibrates.
- **Flashing Light Alarm:** LED lights on the device flash.

You can preset the cumulative dose alarm threshold. When the detected cumulative dose exceeds this value, the selected alarm mode(s) will activate.

1. Press the **Right** / **Settings** button to enter the settings menu.
2. Navigate using the **Up** and **Down** buttons to find "Alarm Settings" or "Ala Mode".
3. Press **OK** to select.
4. Adjust the alarm threshold and select your preferred alarm mode(s) (light, vibration, sound) using the navigation buttons and **OK** to confirm.

5. Press the **Left** / **Back** button to exit the settings.

Image: Depicts the three available alarm modes: audible, vibration, and flashing light, indicating how the device alerts the user.

Image: Icons representing the three alarm modes: Audible, Flashing light, and Vibration.

4.3 Changing Dosage Units

The device supports five different dosage units. To switch between them:

1. Press the **Right** / **Settings** button to enter the settings menu.

2. Navigate to "Unit Settings".
3. Press **OK** to select.
4. Use the **Up** and **Down** buttons to cycle through μSv/h, μGy/h, mR/h, cps, and cpm.
5. Press **OK** to confirm your selection.
6. Press the **Left** / **Back** button to exit the settings.

4.4 Applications

The GOLDCHAMP Nuclear Radiation Detector is suitable for a wide range of applications where ionizing radiation detection is necessary:

- Home radiation monitoring
- Irradiation processing enterprises
- Health and epidemic prevention environments
- Geological exploration
- Iron ore detection
- Nuclear power plants
- Laboratories
- Medical equipment environments

Image: Illustrates various application areas for the detector, including industrial environments, laboratories, medical equipment, home testing, and nuclear power plants.

Image: Shows the detector's applicability in home, industrial, and medical environments.

5. Maintenance

To ensure the longevity and accurate performance of your GOLDCHAMP Nuclear Radiation Detector, follow these maintenance guidelines:

- **Cleaning:** Wipe the device with a soft, dry cloth. Do not use abrasive cleaners or solvents.
- **Storage:** Store the device in a cool, dry place away from direct sunlight and extreme temperatures.
- **Battery Care:** Recharge the battery regularly, even if not in frequent use, to maintain battery health. Avoid fully discharging the battery for extended periods.
- **Avoid Impact:** Protect the device from drops and strong impacts, which can damage internal components.
- **Environmental Conditions:** Do not expose the device to excessive moisture or corrosive environments.

6. Troubleshooting

If you encounter issues with your detector, please refer to the following common troubleshooting steps:

Problem	Possible Cause	Solution
Device does not power on.	Low or depleted battery.	Charge the device fully using the provided USB cable.
Inaccurate readings.	Interference from other electronic devices; device not calibrated (unlikely for user); environmental factors.	Move away from strong electromagnetic fields. Ensure proper operating environment. If issues persist, contact support.
Alarm not sounding/vibrating/flashing.	Alarm mode disabled; alarm threshold not met; low battery.	Check alarm settings in the menu. Ensure the radiation level exceeds the set threshold. Charge the device.
Screen is blank or frozen.	Software glitch; low battery.	Try restarting the device by holding the power button. If unresponsive, allow battery to drain completely then recharge.

If the problem persists after attempting these solutions, please contact GOLDCHAMP customer support for further assistance.

7. Specifications

Detailed technical specifications for the GOLDCHAMP GCUS-886A Nuclear Radiation Detector:

Parameter	Value

Parameter	Value
Brand	GOLDCHAMP
Model Number	GCUS-886A
Color	886A-US
Detector Type	Geiger counter GM tube
Detection Radiation Type	X-ray, β-ray, γ-ray
Dose Current Rate	0.00-10000 µSv/h (10mSv/h)
Accumulated Dose Equivalent	0.00µSv-500.0mSv
Energy Range	48keV-1.5 Mev ±30% (for 137Cs)
Sensitivity	80CPM/µSv (for Co-60)
Dose Units	µSv/h, µGy/h, mR/h, cps, cpm
Alarm Mode	Light/Vibration/Audible
Power Source	Battery Powered (Rechargeable)
Product Dimensions	3"D x 3"W x 8"H (approx. 163mm x 85mm x 35.5mm)
Item Weight	9.1 ounces

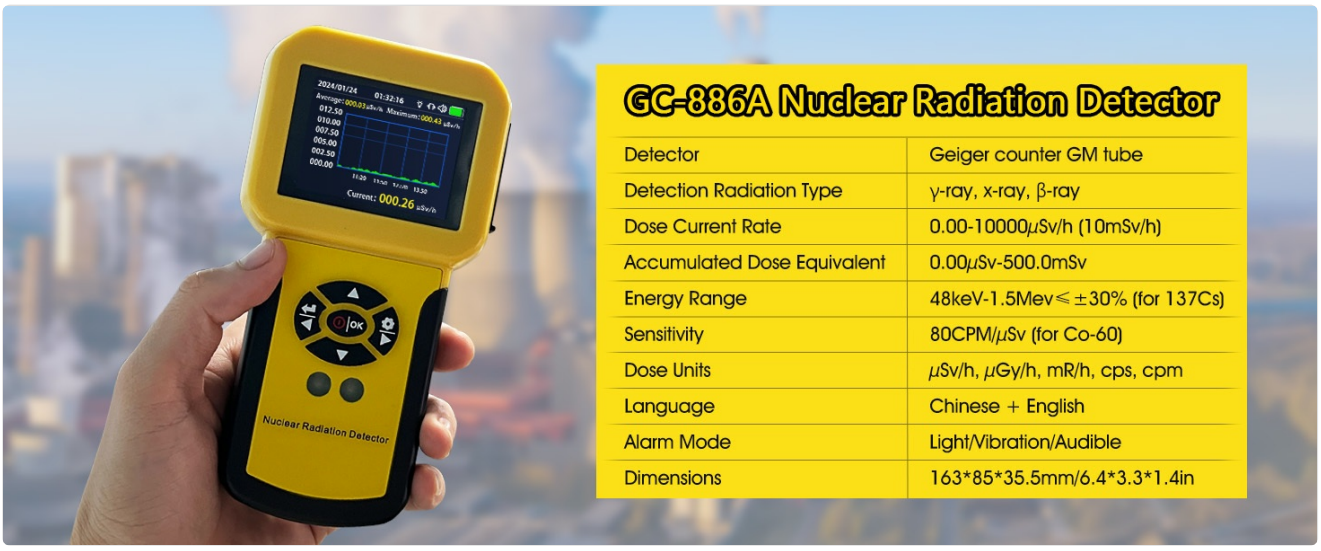


Image: A detailed table summarizing the technical specifications of the GC-886A Nuclear Radiation Detector.

Image: Visual representation of the detector's dimensions in millimeters and inches.

8. Warranty and Support

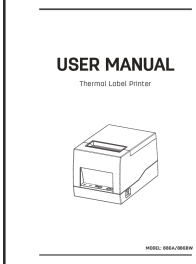
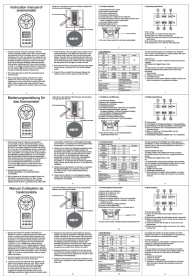
GOLDCHAMP is committed to providing high-quality products. While specific warranty details are not provided in this manual, we stand by the quality of our products.

If you encounter any quality problems or require technical assistance with your GOLDCHAMP Nuclear Radiation Detector, please do not hesitate to contact our customer support team. We are here to help you.

For support, please visit the official GOLDCHAMP store on Amazon or use the contact information provided with your purchase documentation.

GOLDCHAMP Store Link: https://www.amazon.com/stores/GOLDCHAMP/page/D4B153D5-70A6-478A-A260-E705D8FAF4EC

Related Documents - GCUS-886A

	[Deli 886A/886BW Thermal Label Printer User Manual] This user manual provides comprehensive instructions for the Deli 886A and 886BW thermal label printers, covering installation, operation, specifications, interface details, and cleaning procedures.
	[Illuxtron CE Declarations of Conformity for Lighting Products] Official CE Declarations of Conformity from Illuxtron International B.V. covering a wide range of lighting products including ceiling plates, downlights, track spots, and power supply units.
	[GOLDCHAMP Digital Anemometer Instruction Manual - Wind Speed Measurement Guide] Comprehensive user manual for the GOLDCHAMP Digital Anemometer. Learn how to measure wind speed, air volume, and understand its features and specifications for HVAC, drone, and outdoor use.